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Figure 2A

SEQ ID NO : 3

Complete genome sequence of bacteriophage 77

1	gatcaaaata	cttggggaac	ggttagggag	taaacttcgc	gataatttta	aaaattcatg
61	tataaccccc	ctcttataac	cattttaagg	caggtgatga	aatggagatt	atagtcgatg
121	aaaatttagt	gcttaaagaa	aaagaaaggc	tacaagtatt	atataaagac	atacctagca
181	ataaattaaa	agtagttgat	ggtttaatta	ttcaagcagc	aaggctacgt	gtaatgcttg
241	attacatgtg	ggaagacata	aaagaaaaag	gtgattatga	tttattttact	caatctgaaa
301	aggcgccacc	atatgaaagg	gaaagaccag	tagccaaact	atttaatgct	agagatgctg
361	catatcaaaa	aataatcaaa	caattatcgg	atttattgcc	cgaagagaaa	gaagacacag
421	aaacgccatc	tgatgattac	ctatgattag	taataaatac	gttgatgaat	atataaattt
481	gtggaaacaa	ggaaagataa	ttttaaataa	agaaagaatt	gatctcttta	attatctaca
541	aaaacatata	tattcacgag	atgatgtata	ttttgatgaa	cagaaaatcg	aggattgtat
601	caaattttatt	gaaaaatggg	attttccaac	attaccattt	caaagggtta	tcatagctaa
661	tatattttctt	atagataaaa	atacagatga	agctttcttt	acagaatttg	ctatttttcat
721	gggacgtgga	ggcgggaaaa	acggtctaata	aagtgtctatt	agtgattttc	tttctacgcc
781	cttacacgga	gttaaagaat	atcacatctc	cattgttgct	aatagtgaag	atcaagcaaa
841	aacatcgttt	gatgaaatca	gaaccgtttt	aatggataac	aaacgaaata	agacgggtaa
901	aacgccaaaa	gctccttatg	aagttagtaa	agcaaaaata	ataaacctgt	caactaaatc
961	ggttatttga	tataacacat	caaacacaaa	aaccaaagac	ggtggacgtg	aggggtgtgt
1021	tattttttgat	gaaattcatt	atcttcttgg	tcctgaaatg	gtaaacgtca	aacgtgggtg
1081	attaggtaaa	aagaaaaata	gaagaacgtt	ttatataagt	actgatgggt	ttgttagaga
1141	gggtttatatc	gatgcaatga	agcacaaaaat	tgcaagtgtg	ttaagtggca	aggttaaaaa
1201	tagtagattg	tttgcttttt	attgtaagtt	agacgatcca	aaagaagttg	atgacagaca
1261	gacgtgggaa	aaggcgaacc	caatgttaca	taaaccgtta	tcagaatacg	ctaaaacact
1321	gctaagcacg	attgaagaag	aatataacga	tttaccattc	aaccgttcaa	ataagcccga
1381	attcatgact	aagcgaatga	atgtgcctga	agttgacctt	gaaaaagtaa	tagcaccatg
1441	gaaagaaata	ctagcgacta	atagagagat	accaaattta	gataatcaaa	tgtgtatttg
1501	tgggtttagac	tttgcaaaca	ttcgagattt	tgcaagtgtg	gggctattat	tccgaaaaaa
1561	cgatgattac	atgttggttag	gacattcggt	tgtaagacaa	gggttttttg	atgatgtcaa
1621	attagaacct	cctattaaag	aatgggaaaa	aatgggatta	ttgaccattg	tcgatgatga
1681	tgtcattgaa	attgaatata	tagttgattg	gttttttaag	gctagagaaa	aatatgggct
1741	tgaaaaagtc	atagctgata	attatagaac	tgatattgta	agacgtgcgt	ttgaggatgc
1801	tggcataaaa	cttgaagtac	ttagaaatcc	aaaagcaata	catggattac	ttgcaccacg
1861	tatcgataca	atgtttgcta	aacataacgt	aatatatgga	gacaatcctt	tgatgcgttg
1921	gtttactaat	aatgttgctg	taaaaatcaa	gccggatgga	aataaagagt	atatcaaaaa
1981	agatgaagtc	agacgtaaaa	cggatggatt	catggctttt	gttcacgcat	tatatagagc
2041	agacgatata	gtagacaaag	acatgtctaa	agcgcttgat	gcattaatga	gtatagattt
2101	ctaatagagg	aggtgagaca	tgagtattct	agaaaagata	tttaaaacta	ggaaagatat
2161	aacatatatg	cttgatttag	atatgataga	agatctatca	caacaagcgt	atgtgaaacg
2221	tttagcgatt	gatagttgta	ttgaatttgt	tgcgcgagct	gtcgtctaaa	gtcattttta
2281	agtattggaa	ggtaatagaa	ttcaaaaagaa	tgatgtttac	tacaagttta	atataaaaacc
2341	aaatactgac	ttatcaagcg	atagtttttg	gcaacaagtt	atatataaac	taatttatga
2401	taacgaggtt	ttaatcgtag	taagtgcag	caaagaatta	cttatcgtag	atagctttta
2461	cagagaagag	tacgctttgt	atgatgatat	attcaaagat	gtaacggtta	aagattatac
2521	ttatcaacgt	actttcacia	tgcaagaggt	catatattta	aagtacaaca	acaataaagt
2581	gacacacttt	gtagaaaagtc	tattcgaaga	ttacgggaaa	atattcggaa	gaatgatagg
2641	tgcacaatta	aaaaactatc	aaataagagg	gattttgaaa	tctgcctcta	gcgcatatga
2701	cgaaaagaat	atagaaaaat	tacaagcggt	cacaaataaa	ttattcaata	cttttaataa

APR 29 2004

Figure 2B

2761	aatcaacta	gcaatcgcg	ctttgataga	aggttttgat	tatgaggaat	tatctaattgg
2821	tggttaagaat	agtaacatgc	ctttttctga	attgagttag	ctaattgagag	atgcaataaa
2881	aatgtttg	ttgatgattg	gtataacctcc	aggtttgatt	tacggagaaa	cagctgattt
2941	ggaaaaaac	acgcttgat	ttgagaagtt	ctgtttaaca	cctttattaa	aaaagattca
3001	gaacgaatta	aacgcgaaac	tcataacaca	aagcatgtat	ttgaaagata	caagaataga
3061	aattgtcggt	gtgaataaaa	aagaccact	tcaatatgct	gaagcaattg	acaaacttgt
3121	aagttctggt	tcattttacaa	ggaatgaggt	gctgattatg	ttaggtgaag	aaccatcaga
3181	caatcctgaa	ttagacgaat	acctgattac	taaaaactac	gaaaaagcta	acagtgggtga
3241	aatgatgaa	aaagaaaaag	atgaaaacac	tttgaaaggt	ggtgatgaag	atgaaagcgg
3301	agattaaagg	cgtcatcggt	tccaacgaag	ataaatgggt	ttacgaaatg	cttggtatgg
3361	attcgacttg	tcctaaagat	gttttaacac	aactagaatt	tagtgatgaa	gatgttgata
3421	ttataattaa	ctcaaattggt	ggtaacctag	tagctggtag	tgaaatatat	acacatttaa
3481	gagctcataa	aggcaaagt	aatgttcgta	tcacagcaat	agcagcaagt	gcggcatcgc
3541	ttatcgcaat	ggctgggtgac	cacatcgaaa	tgagtcgggt	tgctagaatg	atgattcaca
3601	atccttcaag	tattgcgcaa	ggagaagtga	aagatctaaa	tcattgctgca	gaaacattag
3661	aacatgttgg	tcaaataatg	gctgaggcat	atgcgggttag	agctggtaaa	aacaaacaag
3721	aacttataga	aatgatggct	aaggaaacgt	ggctaaatgc	tgatgaagcc	attgaacaag
3781	gttttgcgga	tagtaaaatg	tttgaaaacg	acaatatgca	aattgtagca	agcgatacac
3841	aagtgttatc	gaaagatgta	ttaaatcgtg	taacagcttt	ggtaagtaaa	acgccagagg
3901	ttaacattga	tattgacgca	atagcaaata	aagtaattga	aaaaataaat	atgaaagaaa
3961	aggaatcaga	aatcgatggt	gcagatagta	aattatcagc	aaatggattt	tcaagattcc
4021	ttttttaata	caaaaatagg	aggtcataaa	atgactataa	atttatcgga	aacattcgca
4081	aatgcgaaaa	acgaatttat	taatgcagta	aacaacgggtg	aaccgcaaga	aagacaaaat
4141	gaattgtacg	gtgacatgat	taaccaacta	tttgaagaaa	ctaaattaca	agcaaaagca
4201	gaagctgaaa	gagtttctag	tttacctaaa	tcagcacaaa	ctttgagtg	aaaccaaaaga
4261	aatttcttta	tgatatcaa	taagagtgtt	ggatataaag	aagaaaaact	tttaccagaa
4321	gaaacaattg	atagaatctt	cgaagattta	acaacgaatc	atccattatt	agctgactta
4381	ggtattaaaa	atgctgggtt	gcgtttgaag	ttcttaaaat	ccgaaacttc	tggcgtggct
4441	gtttggggta	aaatctatgg	tgaaattaaa	ggtcaattag	atgctgcgtt	cagtgaagaa
4501	acagcaattc	aaaataaatt	gacagcggtt	gttgttttac	caaaagattt	aaatgatttt
4561	ggtcctgcgt	ggattgaaag	atgtgttcgt	gttcaaatac	aagaagcatt	tgcagtggcg
4621	cttgaaactg	cgttcttaaa	aggtactggt	aaagaccaac	cgattggctt	aaaccgtcaa
4681	gtacaaaaag	gtgtatcggt	aactgatggt	gcttatccag	agaaagaaga	acaaggtag
4741	cttacatttg	ctaataccgcg	cgctacgggt	aatgaattga	cgcaagtgtt	taaataccac
4801	tcaactaacg	agaaaggtaa	atcagtagcg	gttaaaggta	atgtaacaat	ggttggtaat
4861	ccgtccgatg	cttttgaggt	tcaagcacag	tatacacatt	taaatgcaaa	tggcgtatat
4921	gttactgctt	taccatttaa	tttgaatgtt	attgagtcta	cagttcaaga	agcaggtaag
4981	gttttaacgt	acgttaaagg	tctatatgat	ggttatattg	ctgggtggat	taatgttcag
5041	aaattttaag	aaacacttgc	gttagatgat	atggatttat	acactgcaaa	acaatttgct
5101	tacggcaaag	cgaaagataa	taaagttgct	gctgtttgga	aattagattt	aaaaggacat
5161	aaaccagctt	tagaagatac	cgaagaaaca	ctataaaaat	ttatgaggtg	ataaaatggt
5221	gaaatttaaa	gttggttagag	aatttaaaaga	catagagcac	aatcaacaca	agtacaaagt
5281	aggggagttg	tatccagctg	aagggtataa	caatcctcgt	gttgaattgt	tgacaaatca
5341	aatcaaaaat	aagtacgaca	aagtttatat	cgtaccttta	gataagctga	caaaacaaga
5401	attattagaa	ctatgcgaat	cattacaaaa	aaaagcgtct	agttcaatgg	ttaaagtga
5461	aatcatcgac	ttattgaatg	gtgaagacaa	tgacgattga	tgatttgctt	gtcaaattta
5521	aatcacttga	aaagattgac	cataattcag	aggatgagta	cttaaagcag	ttgttaaaaa
5581	tgtcgtacga	gcgtataaaa	aatcagtgcg	gagtttttga	attagagaat	ttaataggtc
5641	aagaattgat	acttatacgc	gctagatatg	cttatcaaga	tttattagaa	cacttcaacg
5701	acaattacag	acctgaaata	atagattttt	cgttatctct	aatggaggtg	tcagaagatg

**Figure 2C**

5761	aagaaagtgt	ttaagaaacc	tagaattaca	actaaacggt	taaatacgcg	tgttcatttt
5821	tataagtata	ctgaaaataa	tggtccagaa	gctggagaaa	aagaagaaaa	attattatat
5881	agctgttggg	cgagtattga	tggtgtctgg	ttacgtgaat	tagaacaagc	tatctcaaac
5941	ggaacgcaaa	atgacattaa	attgtatatt	cgtgatccgc	aaggtgatta	tttaccaggt
6001	gaagaacatt	atcttgaaat	tgaatcaaga	tatttcaaaa	atcgtttgaa	tataaagcaa
6061	gtatcaccag	at ttggataa	taaagacttt	attatgattc	gcgaggata	tagttcatga
6121	gtgtgaaagt	gacagggtgat	aaagcattag	aaagagaatt	agaaaaacat	tttggcataa
6181	aagagatggt	aaaagttcaa	gataaggcgt	taatagctgg	tgctaaggta	attggtgaag
6241	aaataaaaaa	acaactcaaa	ccttcagaag	actcaggagc	actgattagt	gagattgggtc
6301	gtactgaacc	tgaatggata	aaggggaaac	gtactgttac	aattaggtgg	cgtgggcctt
6361	ttgaacgatt	tagaatagta	catttaattg	aaaatgggtca	tgttgagaaa	aagtcaggaa
6421	aatttgtaaa	acctaaagct	atgggtggga	ttaatagagc	aataagacaa	gggcaaaata
6481	agtattttga	gacgctaaaa	agggagtga	aaaaattgtg	attgatattt	tgtacaaagt
6541	tcatgaagtg	attagtcaag	acagaattat	tagagagcac	gtaaatatca	ataatattaa
6601	gttcaataaa	taccctaata	taaaagatac	tgatgtacct	tttattgtta	ttgacgatata
6661	cgacgaccca	atacctacaa	cttatactga	cggagatgag	tgtgcatata	gttatattgt
6721	ccaaatagat	gtttttgtta	agtacaatga	tgaatataat	gcgagaatca	taagaaataa
6781	gatatactaat	cgcattcaaa	agttattatg	gtctgaacta	aaaatgggaa	atgtttcaaa
6841	tggaaaaccg	gaatatatag	aagaatttaa	aacatataga	agctctcgcg	tttacgaggg
6901	cattttttat	aaggaggaaa	attaaatggc	agtaaaacat	gcaagtgcgc	caaaggcgta
6961	tattaacatt	actgggttag	gtttcgctaa	attaacgaaa	gaaggcgcg	aattaaaata
7021	tagtgatatt	acaaaaacaa	gaggattaca	aaaaattggt	gttgaaactg	gtggagaact
7081	aaaaacagct	tatgctgatg	gcggtccaat	tgaatcaggg	aatacagacg	gagaaggtaa
7141	aatctcatta	caaatgcatg	cgttccctaa	agagattcgc	aaaattgttt	ttaatgaaga
7201	ttatgatgaa	gatggcggtt	acgaagagaa	acaaggtaaa	caaaacaatt	acgtagctgt
7261	atgggttcaga	caagagcgta	aagacggtag	atttagaaca	gttttattac	ctaaagttat
7321	gtttacaaat	cctaaaatcg	atggagaaac	ggctgagaaa	gattgggatt	tctcaagtga
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7441	tatctttgat	tcagctaaca	tgacaaatca	tgatggagac	ggtgaaaaag	gcgaagaggc
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7561	aactttgtaa	caaaaaccggc	ttcatcgga	actgcggtta	agtcgggtta	tataccagat
7621	agcattaaaa	cacttaaagt	tggcgacaca	tacgatttaa	atgttgtagt	agagccatct
7681	aatcaaagta	agttattgaa	atacacaaca	gatcaaacga	atattgtatc	aatcaatagt
7741	gatgggtcaag	ttactgcgga	agcacaaggc	attgctacgg	ttaaagcaac	agttggtaat
7801	atgagtgaca	ctataacaat	aaatgtagaa	gcataagagg	gggcaacccc	tctattttat
7861	ttgaaaataa	ggagagtatt	ataaaatggc	aaaattaaaa	cgtaacatta	ttcaattagt
7921	agaagatcca	aaagcaaatg	aaattaaatt	acaaacgtac	ttaacaccac	acttcatttc
7981	at ttgaaatt	gtatacgaag	caatggattt	aatcgatgat	attgaggacg	aaaatagcac
8041	gatgaagcca	agagaaatcg	ctgacagatt	gatggatatg	gttgtaaaaa	tttacgataa
8101	ccaattcaca	gttaaagacc	taaaagaacg	tatgcatgca	cctgatggaa	tgaatgcact
8161	tcgtgaacaa	gtgattttca	ttactcaagg	tcaacaaact	gaggaaacta	gaaattttat
8221	ccagaacatg	aaataaagcc	tgaagattta	acataataag	caatgttgaa	aaatatggat
8281	actctcatga	tggacttaat	tgaaaatggg	aaagacgcta	acgaagtttt	aaaaatgcca
8341	tttcattatg	tgctttccat	atatcaaaat	aaaaataatg	acattttctga	agaaaaagca
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8461	ttttagaaag	gaggtaaaaa	atgggagaaa	gaataaaaagg	tttatctata	ggtttggtatt
8521	tagatgcagc	aaatttaaat	agatcatttg	cagaaatcaa	acgaaacttt	aaaactttta
8581	attctgactt	aaaattaaca	ggcaacaact	tcaaatatac	cgaaaaatca	actgatagtt
8641	acaaacaaag	gattaaagaa	cttgatggaa	ctatcacagg	ttataagaaa	aacgttgatg
8701	at tttagccaa	gcaatatgac	aaggtatctc	aagaacaggg	cgaaaaacagt	gcgaagctc



**Figure 2D**

8761	aaaagttacg	acaagaatat	aacaaacaag	caaatgagct	gaattatttta	gaaagagaat
8821	tacaaaaaac	atcagccgaa	tttgaagagt	tcaaaaaagc	tcaagttgaa	gctcaaagaa
8881	tggcagaaaag	tggctgggga	aaaaccagta	aagtttttga	aagtatggga	cctaaattaa
8941	caaaaatggg	tgatggttta	aaatccattg	gtaaagggtt	gatgattggg	gtaactgcac
9001	ctgttttagg	tattgcagca	gcacagcgaa	aagcttttgc	agaagttgat	aaagggttag
9061	atactgttac	tcaagcaaca	ggcgcaacag	gcagtgaatt	aaaaaaattg	cagaactcat
9121	ttaaagatgt	ttatggcaat	tttccagcag	atgctgaaac	tggttggtgga	gttttaggag
9181	aagttaatac	aagggttaggt	tttacaggta	aagaacttga	aaatgccaca	gagtcattct
9241	tgaaattcag	tcatataaca	gggttctgacg	gtgtgcaagc	cgtacagtta	attaccctg
9301	caatgggcca	tgcaggtatc	gaagcaagtg	aatatcaaag	tgttttggat	atggtagcaa
9361	aagcggcgca	agctagtggg	ataagtgttg	atacattagc	tgatagtatt	actaaatacg
9421	gcgctccaat	gagagctatg	ggctttgaga	tgaaagaatc	aattgcttta	ttctctcaat
9481	gggaaaagtc	aggcggttaat	actgaaatag	cattcagtgg	tttgaaaaaa	gctatatcaa
9541	attggggtaa	agctggtaaa	aaccaagag	aagaatttaa	gaagacatta	gcagaaattg
9601	aaaagacgcc	ggatatagct	agcgcaacaa	gttttagcgat	tgaagcattt	ggtgcaaagg
9661	caggctcctga	tttagcagac	gctattaaag	gtggctcgctt	tagttatcaa	gaatttttaa
9721	aaactattga	agattcccaa	ggcacagtaa	accaaactt	taaagattct	gaaagtggct
9781	ccgaaagatt	taaagtagca	atgaataaat	taaaattagt	aggtgctgat	gtatgggctt
9841	ctattgaaag	tgcggttgct	cccgtaatgg	aagaattaat	caaaaagcta	tctatagcgg
9901	ttgattgggt	ttccaattta	agtgatgggt	ctaaaagatc	aattgttatt	ttcagtggta
9961	ttgctgctgc	aattggctct	gtagtttttg	ggtaggtgc	atttataagt	acaattggca
10021	atgcagtaac	tgtattagct	ccattggttag	ctagtattgc	aaaggctggg	ggattgatta
10081	gttttttatc	gactaaagta	cctatattag	gaactgtctt	cacagcttta	actgggtcca
10141	ttggcattgt	attaggtgta	ttggctgggt	tagcagtcgc	atttacaatt	gcttataaga
10201	aatctgaaac	atttagaaat	tttgtaaatg	gtgcaattga	aagtgttaaa	caaacattta
10261	gtaattttat	tcaatttatt	caacctttcg	ttgattctgt	taaaaacatc	tttaaacaa
10321	cgatatcagc	aatagttgat	ttcgcaaaag	atatttgagg	tcaaatcaat	ggattcttta
10381	atgaaaacgg	aatttccatt	gttcaagcac	ttcaaaatat	atgcaacttt	attaaagcga
10441	tatttgaatt	tattttaaat	tttgtaatta	aaccaattat	gttcgcgatt	tggcaagtga
10501	tgcaatttat	ttggccggcg	gttaaagcct	tgattgtcag	tacttgggag	aacataaaa
10561	gtgtaataca	aggtgcttta	aatatcatac	ttggcttgat	taagttcttc	tcaagtttat
10621	tcgttggtga	ttggcgagga	gtttgggacg	ccgttggtgat	gattctttaa	ggagcagttc
10681	aattaatttg	gaatttaggt	caattatggt	ttgtaggtaa	aatacttggt	gttggttaggt
10741	actttggcgg	gttgctaaaa	ggattgatag	caggaatttg	ggacgtaata	agaagtatat
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10861	atagcgtaaa	atcaattttc	acaaatatga	aaaattgggt	atctaatact	tggagcagta
10921	tccgtacgaa	tacaatagga	aaagcgcagt	cattatttag	tggcgtcaaa	tcaaaattta
10981	ctaatttatg	gaatgcgacg	aaagaaattt	ttagtaattt	aagaaattgg	atgtcaaata
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11101	gtggaatttt	cacaaatatg	cgcatgggt	tgagttccat	tatagataag	attaaaagtc
11161	atatcggcgg	tatggtaagc	gctattaaaa	aaggacttaa	taaattaatc	gacggtttaa
11221	actgggtcgg	tggttaagtg	ggaatggata	aaatacctaa	gttacacact	ggtacagagc
11281	acacacatac	tactacaaga	ttagttaaga	acggttaagat	tgcacgtgac	acattcgcta
11341	cagttgggga	taagggacgc	ggaaatgggt	caaatgggtt	tagaaatgaa	atgattgaat
11401	tccctaacgg	taaacgtgta	atcacaccta	atacagatac	taccgcttat	ttacctaaag
11461	gctcaaaaag	atacaacggt	gcacaaactt	attcaatggt	aaacggaacg	cttccaagat
11521	ttagtttagg	tactatgtgg	aaagatatta	aatctggtgc	atcatcgcca	tttaactgga
11581	caaaagataa	aataggtaaa	ggtaccaa	ggcttggcga	taaagttggc	gatgttttag
11641	attttatgga	aaatccaggc	aaacttttaa	attatatact	tgaagctttt	ggaattgatt
11701	tcaattcttt	aactaaaggt	atgggaattg	caggcgacat	aacaaaagct	gcatggtcta



**Figure 2E**

11761 agattaagaa aagtgtact gattggataa aagaaaattht agaagctatg ggcggtggcg  
11821 attttagtcgg cggaatatta gaccctgaca aaattaatta tcattatgga cgtaccgcag  
11881 cttataccgc tgcaactgga agaccatttc atgaaggtgt cgattttcca tttgtatatc  
11941 aagaagttag aacgccgatg ggtggcagac ttacaagaat gccatttatg tctggtgggt  
12001 atggtaatta tgtaaaaatt actagtggcg ttatcgatat gctatttgcg catttgaaaa  
12061 acttttagcaa atcaccacct agtggcacga tggtaaagcc cggatgatgtt gttgggtttaa  
12121 ctggtaatac cggatttagt acaggaccac atttacattht tgaaatgagg agaaatggac  
12181 gacattttga ccctgaacca tatttaagga atgctaagaa aaaaggaaga ttatcaatag  
12241 gtgggtggcg tgctacttct ggaagtggcg caacttatgc cagtcgagta atccgacaag  
12301 cgcaaagtat tttagggtgt cgttataaag gtaaattgat tcatgaccaa atgatgcgcg  
12361 ttgcaaaacg tgaaagtaac taccagtcaa atgcagtga taactgggat ataatgtctc  
12421 aaagaggaga cccatcaaga ggattattcc aaatcatcgg ctcaacttht agagcaaacg  
12481 ctaaacgtgg atataactaac tttaataatc cagtacatca aggtatctca gcaatgcagt  
12541 acattgttag acgatatggt tgggggtggt tttaacgtgc tgggtgattac gcatatgcta  
12601 cagggtggaaa agtttttgat ggttggtata acttaggtga agacgggtcat ccagaatgga  
12661 ttattccaac agatccagct cgtagaaatg atgcaatgaa gattttgcat tatgcagcag  
12721 cagaagtaag agggaaaaaa gcgagtaaaa ataagcgtcc tagccaatta tcagacttaa  
12781 acgggtttga tgatcctagc ttattattga aaatgattga acaacagcaa caacaaatag  
12841 ctttattact gaaaatagca caatctaacg atgtgattgc agataaagat tatcagccga  
12901 ttattgacga atacgcttht gataaaaagg tgaacgcgtc tatagaaaag cgagaaaagg  
12961 aagaatcaac aaaagtaag tttagaaaag gaggaattgc tattcaatga tagacactat  
13021 taaagtgaac aacaaaacaa ttccttggtt gtatgtcgaa agagggtttg aaataccctc  
13081 ttttaattat gttttaaaaa cagaaaatgt agatggacgt tcgggggtcta tatataaagg  
13141 gcgtaggctt gaatcttata gttttgatat accttggtg gtacgtaatg actatttatc  
13201 tcacaacggc attaaaacac atgatgacgt cttgaatgaa ttagtaaagt tttttaacta  
13261 cgaggaacaa gttaaattac aattcaaate taaagattgg tactggaacg cttatttcga  
13321 aggaccaata aagctgcaca aagaatttac aatacctgtt aagttcacta tcaaagtagt  
13381 actaacagac ccttacaat attcagtaac aggaaataaa aatactgcga tttcagacca  
13441 agtttcagtt gtaaataagt ggactgctga cactccttha attggtgaag cccgagcaat  
13501 taaaccatct agttacttha tgattactaa aaatgatgaa gattatttha tgggttggtga  
13561 tgatgaggta accaaagaag ttaaggatta catgcctcct gtttatcata gtgagtttcg  
13621 tgatttcaaa ggttggaacta agatgattac tgaagatatt ccaagtaatg acttaggtgg  
13681 taaggctcggc ggtgacttht tgatatccaa tcttggcgaa ggatataaag caactaattt  
13741 tcctgatgca aaaggttggg ttggtgctgg cacgaaacga gggctcccta aagcgatgac  
13801 agattttcaa attacctata aatgtattgt tgaacaaaaa ggtaaagggtg ccggaagaac  
13861 agcacaacat atttatgata gtgatggtaa gttacttgct tctattgggt atgaaaataa  
13921 atatcatgat agaaaaatag gacatattgt tgttacgttg tataaccaaa aaggagaccc  
13981 caaaaagata tacgactatc agaataaacc gataatgtat aacttgga caaatcggtgt  
14041 ttatatgcgg ctcagaagag taggtaataa attttctatt aaaacttgga aatttgatca  
14101 cattaaagac ccagatagac gtaaacctat tgatatggat gagaaagagt ggatagatgg  
14161 cggtaagttht tatcagcgtc cagcttctat catagctgtc tatagtgcga agtataacgg  
14221 ttataagtgg atggagatga atgggttagg ttcattcaat acggagattc taccgaaacc  
14281 gaaaggcgca agggatgtca ttatacaaaa aggtgattta gtaaaaatag atatgcaagc  
14341 aaaaagtgtt gtcatcaatg aggaaccaat gttgagcgag aaatcgtht gaagtaatta  
14401 tttcaatgtt gattctgggt acagtgaatt aatcatacaa cctgaaaacg tctttgatac  
14461 gacgggttaaa tggcaagata gatatttata gaaaggagat gagagtgtga tacatgttht  
14521 agatttttaac gacaagatta tagatttctt ttctactgat gacccttct tagttagagc  
14581 gattcataaa cgtaatgtta atgacaattc agaaatgctt gaactgctca tatcatcaga  
14641 aagagctgaa aagttccgtg aacgacatcg tgttattata agggattcaa acaacaatg  
14701 gcgtgaattht attattaact gggttcaaga tacgatggac ggctacacag agatagaatg



**Figure 2F**

14761	tatagcgtct	tatcttgctg	atataacaac	agctaaaccg	tatgcaccag	gcaaatttga
14821	gaaaaagaca	acttcagaag	cattgaaaga	tgtgttgagc	gatacagggt	gggaagtttc
14881	tgaacaaacc	gaatacgatg	gcttacgtac	tacgtcatgg	acttcttatc	aaactagata
14941	tgaagtttta	aagcaattat	gtacaaccta	taaaatgggt	ttagattttt	atattgagct
15001	tagctcta	accgtcaaag	gtagatatgt	agtactcaaa	aagaaaaaca	gcttattcaa
15061	aggtaaagaa	attgaatatg	gtaaagattt	agtcgggtta	actaggaaga	ttgatatgtc
15121	agaaatcaaa	acagcattaa	ttgctgtggg	acctgaaaat	gacaaagggg	agcgtttaga
15181	gctagttgtg	acagatgacg	aagcgcaaag	tcaattcaac	ctacctatgc	gctatatttg
15241	ggggatatat	gaaccacaat	cagatgatca	aaatatgaat	gaaacacgat	taagttcttt
15301	agccaaaaca	gagttaaata	aacgtaagtc	ggcagttatg	tcatatgaga	ttacttctac
15361	tgatttgga	gttacgtatc	cgcacgat	tatatcaatt	ggcgatacag	tcagagtaaa
15421	acatagagat	tttaaccgcg	cattgtatgt	agaggcagaa	gttattgctg	aagaatataa
15481	cataatttca	gaaaatagca	catatacatt	cggtcacct	aaagagttca	aagaatcaga
15541	attacgagaa	gagtttaaca	agcgattgaa	cataatacat	caaaagttaa	acgataatat
15601	tagcaatatc	aacactatag	ttaaagatgt	tgtagatggg	gaattagaat	actttgaacg
15661	caaaatacac	aaaagtata	caccgccaga	aaatccagtc	aatgatatgc	tttggtaga
15721	tacaagtaac	cctgatgttg	ctgtcttgcg	tagatattgg	aatggtcgat	ggattgaagc
15781	aacaccaa	gatgttgaaa	aattaggtgg	tataacaaga	gagaaagcgc	tattcagtga
15841	attaacaat	atTTTTatta	atttatctat	acaacacgct	agctttttgt	cagaagctac
15901	agaattactg	aatagcgagt	acttagtaga	taatgatttg	aaagcggact	tacaagcaag
15961	tttagacgct	gtgattgatg	tttataatca	aattaaaaat	aatttagaat	ctatgacacc
16021	cgaaactgca	acgattgggc	ggttggtaga	tacacaagct	ttatttcttg	agtatagaaa
16081	gaaattacaa	gatgtttata	cagatgtaga	agatgtcaaa	atcgccattt	cagatagatt
16141	taaattatta	cagtcacaat	acactgatga	aaaatataaa	gaagcgttgg	aaataatagc
16201	aacaaaattt	ggtttaacgg	tgaatgaaga	tttgcagtta	gtcggagAAC	ctaagtgtgt
16261	taaatacagc	attgaagcag	ctagagaatc	cacaaaagaa	caattacgtg	actatgtaaa
16321	aacatcggac	tataaaacag	acaaagacgg	tattgttgaa	cgtttagata	ctgctgaagc
16381	tgagagaacg	actttaaaag	gtgaaatcaa	agataaagtt	acgttaaacg	aatatcgaaa
16441	cggattggaa	gaacaaaaac	aataactga	tgaccagtta	agtgatttgt	ccaataatcc
16501	tgagattaaa	gcaagtattg	aacaagcaaa	tcaagaagcg	caagaagctt	taaaatcata
16561	cattgatgct	caagatgatc	ttaaagagaa	ggaatcgcaa	gcgtatgctg	atgggtaaaat
16621	ttcggaagaa	gagcaacgcg	ctatacaaga	tgctcaagct	aaacttgaag	aggcaaaaaca
16681	aaacgcagaa	ctaaaggcta	gaaacgctga	aaagaaagct	aatgcttata	cagacaacaa
16741	ggtcaaagaa	agcacagatg	cacagaggaa	aacattgact	cgctatgggt	ctcaaattat
16801	acaaaatggg	aaggaaatca	aattaagaac	tactaaagaa	gagtttaatg	caaccaatcg
16861	tacactttca	aatatatata	acgagattgt	tcaaaatggt	acagatggaa	caacaatcag
16921	atatgatgat	aacggagtgg	ctcaagcttt	gaatgtgggg	ccacgtggta	ttagattaaa
16981	tgctgataaa	attgatatta	acggtaatag	agaaataaac	cttcttatcc	aaaatatgcg
17041	agataaagta	gataaaaccg	atattgtcaa	cagtcttaat	ttatcaagag	aggggtcttga
17101	tatcaatggt	aatagaattg	gaattaaagg	cggtgacaat	aacagatatg	ttcaaataca
17161	gaatgattct	attgaactag	gtgggtattgt	gcaacgtact	tggagagggg	aacgttcaac
17221	agacgatatt	tttacgcgac	tgaaagacgg	tcacctaaaga	tttagaaata	acaccgctgg
17281	cggttcactt	tatatgtcac	atTTTgggtat	ttcgacttat	attgatgggtg	aagggtgaaga
17341	cgggtggttca	tctgggtacga	ttcaatgggtg	ggataaaaact	tacagtgata	gtggcatgaa
17401	tgggtataaca	atcaattcct	atgggtgggtg	cgttgcaacta	acgtcagata	ataatcgggt
17461	tgttctggag	tcttacgcctt	catcgaatat	caaaagcaaa	caggcaccgg	tgtatttata
17521	tccaaacaca	gacaaagtgc	ctggattaaa	ccgatttgca	ttcacgctgt	ctaatagcaga
17581	taatgcttat	tcgagtgcg	gttatattat	gtttgggtct	gatgagaact	atgattacgg
17641	tcggggtatc	aggttttcta	aagaaagaaa	taaaggctct	gttcaaattg	ttaatggacg
17701	atatgcaaca	ggtggagata	caacaatcga	agcagggtat	ggcaaattta	atatgctgaa



**Figure 2G**

17761	acgacgtgat	ggtaataggt	atattcatat	acagagtaca	gacctactgt	ctgtaggttc
17821	agatgatgca	ggagatagga	tagcttctaa	ctcaatttat	agacgtactt	attcggccgc
17881	agctaatttg	catattactt	ctgctggcac	aattgggcgt	tcgacatcag	cgcgtaaata
17941	caagttatct	atcgaaaatc	aatataacga	tagagatgaa	caactggaac	attcaaaagc
18001	tattcttaac	ttacctatta	gaacgtggtt	tgataaagct	gagtcctgaa	ttttagctag
18061	agagctgaga	gaagatagaa	aattatcgga	agacacctat	aaacttgata	gatacgtagg
18121	tttgattgct	gaagaggtgg	agaatttagg	attaaaagag	tttgtcacgt	atgatgacaa
18181	aggagaaatt	gaaggtatag	cgtatgatcg	tctatggatt	catcttatcc	ctgttatcaa
18241	agaacaacaa	ctaagaatca	agaaattgga	ggagtc aaag	aatgcaggat	aacaaacaag
18301	gattacaagc	taatcctgaa	tatacaattc	attattttatc	acaggaaatt	atgaggttaa
18361	cacaagaaaa	cgcgatgtta	aaagcgtata	tacaagaaaa	taaagaaat	caacaatgtg
18421	ctgaggaaga	gtaatcctta	gcactatttt	tatacaaaaa	tttaaggagg	tcattttaatt
18481	atggcaaaaag	aaattatcaa	caatacagaa	aggtttattt	tagtacaaat	cgacaaagaa
18541	ggtacagaac	gtgtagtata	tcaagatttc	acaggaagtt	ttacaacttc	tgaaatgggt
18601	aaccatgctc	aagattttta	atctgaagaa	aacgctaaga	aaattgcgga	gacgttaaat
18661	ttgttatatc	aattaactaa	caaaaaacaa	cgtgtgaaag	tagttaaaga	agtagttgaa
18721	agatcagatt	tatctccaga	ggtaacagtt	aacactgaaa	cagtatgaaa	agctatgagt
18781	tagatactca	tagtctttat	tcttttagaa	agcgggtgta	ctgaattggg	gtggttcaaa
18841	aaacacgaac	atgaatggcg	catcagaagg	ttagaagaga	atgataaaac	aatgctcagc
18901	acactcaacg	aaattaaatt	agggtcaaaaa	acccaagagc	aagttaacat	taaattagat
18961	aaaaccttag	atgctattca	aaaagaaaga	gaaatagatg	aaaagaataa	gaaagaaaat
19021	gataagaaca	tacgtgatat	gaaaatgtgg	gtgcttggtt	tagttggggac	aatatttggg
19081	tcgctaatta	tagcattatt	gcgtatgctt	atgggcatat	aagagagggtg	attaccatgt
19141	tcggattaaa	ttttggagct	tcgctgtgga	cgtgtttctg	gtttggtaag	tgtaagtaat
19201	agttaagagt	cagtgcctcg	gcactggcct	tttatttttg	ataaaaggag	caaacaaatg
19261	gatgcaaaaag	taataacaag	atacatcgta	ttgatcttag	cattagtaaa	tcaattctta
19321	gcgaacaaag	gtattagccc	aattccagta	gacgatgaaa	ctatatcatc	aataatactt
19381	actgtagtcg	ctttatatac	aacgtataaa	gacaatccaa	catctcaaga	aggtaaattg
19441	gcaaatcaaa	aattaaagaa	atataaagct	gaaaataagt	atagaaaagc	aacagggcaa
19501	gcgccaatta	aagaagtaat	gacacctacg	aatatgaacg	acacaaatga	tttagggtag
19561	gtggttgata	tatgttaatg	acaaaaaatc	aagcagaaaa	atggtttgac	aattcattag
19621	ggaacaatt	caaccagat	ggttggtatg	gatttcagtg	ttatgattac	gccaatatgt
19681	tcttttatgtt	agcgacaggc	gaaaggctgc	aaggtttata	tgcttataat	atcccgtttg
19741	ataataaagc	aaagattgaa	aaatatggct	aaataattaa	aaactatgac	agctttttac
19801	cgcaaaaagt	ggatattgtc	gttttcccg	caaagtatgg	tggcggagct	ggacacgttg
19861	aaattgttga	gagcgcaaat	ttaaatactt	tcacatcatt	tgggtcaaac	tggaacggta
19921	aagggttgac	taatggcggt	gcgcaacctg	gttgggggtcc	tgaaactgtg	acaagacatg
19981	ttcattatta	tgacaatcca	atgtatttta	ttaggttaaa	cttccttaac	aacttaagcg
20041	ttggcaataa	agctaaaggt	attattaagc	aagcgactac	aaaaaaagag	gcagtaatta
20101	aacctaaaaa	aattatgctt	gtagccggct	atggttataa	cgatcctgga	gcagtaggaa
20161	acggaacaaa	cgaacgcgat	tttatacgta	aatatataac	gcctaataatc	gctaagtatt
20221	taagacatgc	aggacatgaa	gttgcatat	acgggtggctc	aagtcaatca	caagatatgt
20281	atcaagatac	tgcatacggt	gttaatgtag	gcaataaaaa	agattatggc	ttatatattggg
20341	ttaaatcaca	gggggtatgac	attgttctag	aaatacattt	agacgcagca	ggagaaaagcg
20401	caagtgggtg	gcatgttatt	atctcaagtc	aattcaatgc	agatactatt	gataaaaagta
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20521	tactaaatgt	taatgtatca	gcagaaataa	atataaatta	tcgtttatct	gaattaggtt
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20641	taatagccgg	tgcgattcat	ggtaagccta	taggtgggtt	ggtagctggt	aatgttaaaa
20701	catcagctaa	aaacaaaaaa	aatccaccag	tgccagcagg	ttatacactc	gataagaata





**Figure 2H**

20761	atgtccctta	taaaaaagaa	caaggcaatt	acacagtagc	taatgttaaa	ggtaataatg
20821	taagagacgg	ttattcaact	aattcaagaa	ttacaggggt	attacccaac	aacacaacaa
20881	ttacgtatga	cgggtgcata	tgtattaatg	gttatagatg	gattacttat	attgctaata
20941	gtggacaacg	tcgttatata	gcgacaggag	aggtagacaa	ggcaggtaat	agaataagta
21001	gttttggtta	gttttagcacg	attttagtatt	tacttagaat	aaaaattttg	ctacattaat
21061	tataggggaat	cttacagtta	ttaaataact	atttggatgg	atgttaatat	tcctatacac
21121	ttttttaacat	ttctctcaag	atttaaatgt	agataacagg	cagggtacttc	ggtacttgcc
21181	tatttttttta	tggtatagct	agccttcggg	ctagtttttt	gttatgatgt	gttacacatg
21241	catcaactat	ttacatctat	ccttggtcac	ccaagcatgt	cactggatgt	ttttcttg
21301	gatagagagc	atagttttca	tactactccc	cgtagtatat	atgacttttag	cattcccgt
21361	taacagttta	cggggtgctt	ttatgttata	attgctttta	tatagtagga	gtgaactata
21421	tagccgggca	gaggccatgt	atctgactgt	tgggtcccaca	ggagacatct	tccttgtcat
21481	cactcgatac	atatacttta	acaacataga	aatgttacat	tcgctataac	cgtatcttaa
21541	tcgatacggg	tatatattatt	cccctacaac	caacaaaacc	acagatccta	ttaatttagg
21601	attgtgggta	ttttttgctt	ttttttgggg	caaaaaaagg	gcagattatt	tgaaaaagg
21661	caaacgcttg	tggaaaagct	aaaaggttta	aaatgacaaa	aaccttgata	caacagtgtt
21721	tttggacgct	cgtgtacggt	agagaatgac	cgggtttacca	tcatacaagg	gtgggattaa
21781	cttgtgttaa	aaagccttta	atatcagttg	ttacaaagga	tttgtagcgt	ctttaaaaat
21841	aaaaaagggc	agaaaaagg	cagatacctt	ttagtacaca	agtttttcta	atttttgctc
21901	taactctctg	tccattttct	ctgttacatg	tgtatacacc	tttatagtcg	ttttttcatc
21961	tgtatgtcct	actcttttca	taattgcttt	taacgatata	ttcatttcg	ccaataaact
22021	tatgtgtgta	tgccttagtg	tgtgagtagt	aactttttta	tttatattta	atgattctgc
22081	agctgaggac	aatcgtttgt	ttatcctact	gccttgcata	ggatttcctt	ggcaagtgtt
22141	gaatataaac	cctctatcaa	catagcttgg	ttcccattgt	tgcactcttt	tattttctaa
22201	cattattttt	ttcaatacat	ttgctatcct	tgaattgatg	gcgatttttc	ttcttgaacc
22261	tgcgggtctta	gtagtatctt	tgtgaccaa	tccagcatta	catttgattc	tgtgaatagt
22321	gccattaata	gcgatcgttt	tatttttgag	gtcaacatct	ttaacttgga	gagctaataa
22381	ctcacctatg	cgcatacctg	ttaaagcttg	aacttctaca	gccccagcaa	ctaaaatacg
22441	agctctatac	tgcattgttat	tatcgttcag	tataaaatcg	cgtatctgta	ttacctgttc
22501	catctctaaa	tagttataca	ttttcgcttc	ttctttttct	atatcttcta	tcgtcttact
22561	cttcttttgg	agtgtgacgc	tatttaatat	gtgttcggtt	ggataattgt	aaaatttaac
22621	ggcgtattta	atagcttctt	tcatatgtcc	aagttgacgc	ttacctgat	ttgcagaata
22681	tacgtttgat	aatttggtta	taaatggttg	catgtacttt	gtatcaattt	tgtttaaaag
22741	taaattttga	gaactgttct	ttttgatgtt	tttgattctt	gttttcaaat	tatcaagcgt
22801	cgttacttta	aagccagatg	tttttatatg	atattcaagc	cattcatcta	ataacgcgtg
22861	aaaagtcaaa	gtttttaatt	cgcttgacga	cttggtgttt	agtttttctt	ttattttttc
22921	ttctaaacga	aacattgcct	ctttttgcga	ttgctttgta	ttcttattca	agacaacact
22981	tacacgtttc	catttatctg	tatacggatc	tttgtatttc	tcgtagtatc	tatacttcgt
23041	ttcattgttc	ttatttttaa	atttttcaaa	ccacatttta	catccctcct	caaaattggc
23101	aaaaaataat	aagggtaggc	gggctaccca	tgaattgtgt	ataaaaaaag	acgcctgtat
23161	aaaatacaga	cgccacttat	aattataaga	ttacatgggt	aattacacaa	aatggtaacg
23221	aatatatacg	tgtttttaag	gataaacctt	taatataatta	aaattatatc	atcttatatc
23281	agggatctgc	aatatattat	tattaattct	atztatcagt	aacataatat	ccgaagaatc
23341	tattactgga	tttttaattt	tttggggtaa	aacttttctt	atgcgaaact	tactaatcgg
23401	ctggaaagaa	tttatgcaag	cgtaactatt	acctttta	ttttttacct	tatcaattgc
23461	tgatactatg	ttattaatgt	ttctgtcaat	ttatttta	ttattttcaa	tttctaaact
23521	atcagatata	aattcaataa	aataatcttt	agtgatgaat	tctgtgttgt	ttttttggta
23581	ttttttatcg	aaaacttctt	ttaatatagc	tgaattat	tgcgcgctaa	ttaaatttaa
23641	aaacaatctt	aaataatact	cccatttcaa	atcaaaattc	atctttta	actttttgtt
23701	ttcttttagag	gataagggaa	taacattttac	tatatcctcc	gtattagaat	cattttttatt



**Figure 2I**

23761	catcactatt	gcaaagtgtg	aattagaaaa	ttcttttatta	acgttttatac	cgaaatctac
23821	aaaaactatt	tctccttggt	taaacttttg	ataaaaacct	ttatgggtttt	tttcaccttc
23881	aatctctctg	agtaaatagt	gaatatctga	atctaacttt	ttaaattttg	gatttccaga
23941	agttttttaat	ttattaatgc	gtttttctat	attatgcgtc	atcattttctc	ctttattctc
24001	gctcacactc	tcaccaccat	tcaacgtcta	cacttgtagg	cgttttttga	ttagtaaaat
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24121	tattttacg	cattatgtga	cgataaaatc	ttaggtaact	cataagtga	tggttgatta
24181	ccactagtta	aaacttcata	tactatagtt	tctttttttta	ttttgcaatt	agttattttc
24241	attataaact	cctttttaaac	actgctgaaa	tagacgtctt	tttcaaataa	gcatgattaa
24301	tacttttaatt	ctttaatcca	catatatatta	aaagtggagt	agtaggtaat	aaatataaga
24361	cttaaggtta	agattgcttt	tttcatgtca	atttctcctt	tgtttatatt	tatattaaag
24421	cgctaaatat	acgttattaa	tcacaataca	actttgccc	ttactttaat	atcactaaac
24481	gaagcgactt	tgatatcatc	atacttcgga	tttagagata	ccaaattaat	atagtcttcg
24541	catatatcta	cacgcttgat	aagacttact	ccatctaata	caacgagtgc	aattgtacca
24601	tcttttaatag	aatcttcttt	cttaataaaa	gcgtatgttc	cttgttttta	cataggttcc
24661	attgaatcac	cattaactaa	aatacaaaaa	tcagcatttg	atggcggttc	gtcttcttta
24721	aaaaataact	cttcatgcaa	tatgtcatca	tataattctt	ctcctatgcc	agcaccagtt
24781	gcaccacatg	caatatacga	tactagttta	gactctttat	attcatctat	agaagtgact
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25321	ttatagttca	aatgtttgaa	cttaggaggt	gattatttga	atactaatac	aacttttgat
25381	ttttcgttat	tgaacggtaa	gatagtcgaa	gtgtactcga	cacaatttaa	ctttgctata
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26521	caaaacttac	ttttacaaca	gcaagtagaa	gttaacaaac	caaaagtatt	attcgctgac
26581	tcggtagctg	gtagtataaa	ttcaataact	gttgagaaac	tagcgaaaat	acttaacaa
26641	aacgggtgtg	atataggaca	aaacagattg	ttcaaatggg	taagaaataa	tggatatctc
26701	attaaaaaga	gtggagaaag	ttataactta	ccaactcaaa	agagtatgga	tctaaaaatc



**Figure 2J**

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26881	acatcttaaa	aggaggaaca	caatggaaca	aatcacatta	accaaagaag	agttgaaaga
26941	aattatagca	aaagaagtta	gagaggctat	aatgggcaag	aaaccaatca	gttcagggttc
27001	aatttttcagt	aaagtaagaa	tcaataatga	cgatttagaa	gaaatcaata	aaaaactcaa
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**Figure 2K**

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**Figure 2L**

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**Figure 2M**

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36241	ctaactttat	tttaaaaggg	cggaaacaat	gaaaatcaaa	attgaaaaag	aatgaattt
36301	acctgaactt	atccaatggg	cttgggataa	ccccaagtta	tcaggtaata	aaagattcta
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36421	tgtgactgga	tatgtatcaa	ttaacgataa	atttactgtt	caagaggaga	tataacaatg
36481	aaaatcaaag	ttaaaaaaga	aatgagatta	gatgaattaa	ttaaatgggc	gcgagaaaat
36541	ccgatcttat	cacaaggaaa	aatatttttt	tcaacaggat	ttagtgtatg	attcgttcgt
36601	tttcatccaa	atacaaataa	gtgttcgacg	tcaagtttta	ttccaattga	tatccccctc
36661	atagttgata	ttgaaaaaga	agtaacggaa	gagactaagg	ttgataggtt	gattgaatta
36721	ttcgagattc	aagaaggaga	ctataactct	acactatatg	agaacactag	tataaaagaa
36781	tgtttatatg	gcagatgtgt	gcctaccaa	gcattctaca	tcttaaacga	tgacctaaat
36841	atgacgttaa	tctggaaaga	tggggagttg	ctagtatgat	gttgaaattt	aaagcttggg
36901	ataaagataa	aaaagtatat	agtattattg	acgaaatcga	ttttaatagt	gggtacattt
36961	tgatttcaac	aggttataaa	agtttcaatg	aagtaaaact	attacaatac	acaggattta
37021	aagatgtgca	cgggtgtggag	atttatgaag	gggatattgt	tcaagattgt	tattcgagag
37081	aagtaagttt	tatcgagttt	aaagaaggag	ccttttatat	aacttttagc	aatgtaactg
37141	aattactaag	tgaaaatgac	gatattattg	aaattgttgg	aaatattttt	gaaaatgaga
37201	tgctattgga	ggttatgaga	tgacgttcac	cttatcagat	gaacaatata	aaaatccttg
37261	tactaactct	aacaagttat	tagataaact	tcacaaagca	ttaaaagatc	gtgaagagta
37321	caagaagcaa	cgagatgagc	ttattgggga	tatagcgaag	ttacgagatt	gtaacaaaga
37381	tctagagaag	aaagcaagcg	catgggtag	gtattgcaag	agcgttgaaa	aagatttaat
37441	aaacgaattc	ggtaacgatg	atgaaagagt	taaattcgga	atggaattaa	acaataaaat
37501	ttttatggag	gatgacacaa	atgaataatc	gcgaaaaaat	cgaacagtc	gttatttagtg
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37621	agaaagcgca	agcgtttgat	gaaataactg	agggaatgac	aatgctatt	caacattcag
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37921	ccagagggct	atgtcggact	attaactagt	cgtagtgggtg	taagtagtaa	aacgtattta
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38041	aatgatgaag	aacgtgatgg	aatacccttt	ttatatgatg	atatagacgc	tgaattagaa
38101	gatggattaa	taagcatttt	agatataaaa	ggtaactatg	tacaagatgg	aagaggcata
38161	agaagagttt	accaaataca	caaaggcgat	aaactagctc	aattgggttat	cgtgcctata
38221	tggacaccgg	aactaaagca	agtggaggaa	ttcgaaagtg	tttcagaacg	tggagcaaaa
38281	ggcttcggaa	gtagcggagt	gtaaagacat	cttagatcga	gttaaggagg	ttttggggaa
38341	gtgacgcaat	acttagtcac	aacattcaaa	gattcaacag	gacgaccaca	tgaacatatt
38401	actgtggcta	gagataatca	gacgtttaca	gttattgagg	cagagagtaa	agaagaagcg
38461	aaagagaagt	acgaggcaca	agttaaaaga	gatgcagtta	ttaaagtggg	tcagttgtat
38521	gaaaatataa	gggagtgtgg	gaaatgacgg	atgttaaaat	taaaactatt	tcaggtggag
38581	tttattttgt	aaaaacagct	gaaccttttg	aaaaatatgt	tgaaagaatg	acgagtttta
38641	atgggttatat	ttacgcaagt	actataatca	agaaaccaac	gtatattaaa	acagatacga
38701	ttgaatcaat	cacacttatt	gaggagcatg	ggaaatgaat	cagctgagaa	ttttattaca



**Figure 2N**

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38881	tgtattgaac	aaagggtata	tagttgggat	caatgttgag	gaggcagatg	atgattaaca
38941	tacctaaaat	gaaattcccg	aaaaagtaca	ctgaaataat	caaaaaatat	aaaaataaag
39001	cacctgaaga	aaaggctaag	attgaagatg	attttattaa	agaaattaaa	gataaagaca
39061	gtgaatttta	cagtcctacg	atggctaata	tgaatgaata	tgaattaagg	gctatgttaa
39121	gaatgatgcc	tagtttaatt	gatactggag	atgacaatga	tgattaaaaa	acttaaaaaat
39181	atggatgggt	tcgacatcct	tattgttgga	atactgtcat	tattcggtat	attcgcat
39241	ctacttggtta	tcacattgcc	tatctataca	gtggctagtt	accaacacaa	agaattacat
39301	caaggaacta	ttacagataa	atataacaag	agacaagata	aagaagacaa	gttctatatt
39361	gtatttagaca	acaaacaagt	cattgaaaat	tccgacttat	tattcaaaaa	gaaatttgat
39421	agcgcagata	tacaagctag	gttaaaagta	ggcgataagg	tagaagttaa	aacaatcggg
39481	tatagaatac	actttttaaa	tttatatccg	gtcttatacg	aagtaaagaa	ggtagataaa
39541	caatgattaa	acaaatacta	agactattat	tcttactagc	aatgtatgag	ttaggtaagt
39601	atgtaactga	gcaagtgtat	attatgatga	cggctaata	tgatgtagag	gcgccgagtg
39661	attacgtcct	tcgagcggag	gtgagtgaat	aatgagaata	tttatttatg	atttgatcgt
39721	tttgctgttt	gctttcttaa	tatccatata	tattattgat	gatggagtga	taataaatgc
39781	attaggaatt	tttggtatgt	ataaaattat	agattccttt	tcagaaaaata	ttataaagag
39841	gtagataaaa	atgaacgagc	aaataatagg	aagcatatat	acttttagcag	gaggtgttgt
39901	gctttattca	gttaaagaga	tttttaggta	ttttacagat	tctaacttac	aacgtaaaaa
39961	aatcaattta	gaacaaatat	atccgatata	tttagattgt	tttaaaaagg	ctaaaaagat
40021	gattggagct	tatattat	caacagaaca	gcatgaattt	ttagattttt	ttgatattga
40081	agtctttaat	aatttagata	agcaaagtaa	aaaagcgtat	gaaaatgtta	ttggatttag
40141	acaaatgatt	aatttatcaa	atagagttaa	ggcaatggaa	gattttaaga	tgagtttcaa
40201	caatgaattt	agtacaaatc	agattttttt	taatccttct	tttggttatg	aaacaattgc
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40321	tgaaaataga	gcttataatc	atattgatag	ttttatcact	tcagagtacc	gacgaaaaat
40381	aaacgattat	aatctttatc	ttgataaatt	tgaagaacag	tttagtcaaa	agtttaaaat
40441	aaacagaact	tcgataaaa	aaagaattat	tattaattta	aacaagagga	gatttaaatg
40501	atgtggatta	ctatgactat	tgtatttgc	atattgctat	tagtttgtat	cagtattaat
40561	agtgatcgtg	caagagagat	acaagcactt	agatatatga	atgattatct	acttgatgaa
40621	gtagttaaaa	ctaaagggta	caacgggtta	gaagaataca	ggattgaatt	gaagcgaatg
40681	aataacgata	ttaaaaagta	atttatatta	tcggagggtat	tgcatggaat	gataaagatt
40741	gagaaacacg	atatcaaaaa	gcttgaagaa	tacattcagc	acatcgataa	ctatcgaa
40801	gagttgaaga	tcgagagaata	tgaattactt	gaaagtcag	aaccagataa	tcgaggagct
40861	ggcaaaagta	atttgccggg	taacccgatt	gaacgatgtg	caataaagaa	gtttagtgat
40921	aacagggtaca	atacattaag	aaatatagtt	aacgggtgtag	atagattgat	aggtgaaagt
40981	gatgaggata	cgcttgagtt	attaagggtt	agatattggg	attgtcctat	tggttggtat
41041	gaatgggaag	atatagcaca	ttactttggg	acaagtaaga	caagtatat	acgtagaagg
41101	aatgcactga	tcgataagtt	agcaaagtat	attgggttatg	tgtagcggac	ttttacccta
41161	tgtaagtcg	cattaaaaca	gtttattatg	ttagtatcag	attaatat	aaagttatta
41221	aatgctaata	cgacgcgatga	acaagaggcg	catcactatg	tgatgtgtct	ttttatttat
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41341	tcttgatact	acttaagtta	tataagggtga	aacattatga	tgactaaaga	cgaacgtata
41401	cgattctata	agtctaaaga	atggcaaata	acaagaaaaa	gagtgtctaga	aagagataat
41461	tatgaatgtc	aacaatgtaa	gagagacggc	aagttaacga	catatgacaa	aagcaagcgt
41521	aagtcggttg	atgtagatca	tatattatcg	ctagaacatc	atccggaggt	tgctcatgac
41581	ttaaacaatt	tagaaacact	gtgtattaaa	tgtcacaaca	aaaaagaaaa	gagatttata
41641	aaaaaagaaa	ataaatggaa	agacgaaaaa	tggtaaatac	ccccgggtca	aaaaaatcaa
41701	aagcgatc					



Figure 6A

SEQ ID NO: 6 DnaC nucleotide *B. subtilis*

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1   ATGACAGACC TTCTGAATGA CCGGCTTCCT CCGCAAAATA TAGAAGCCGA
51  ACAAGCCGTG TTAGGCGCTA TTTTTTTACA GCCGTCTGCT TTAACACTGG
101 CTTCAGAAGT ATTGATTCCA GATGATTCTT ATAGAATGTC CCACCAAAAA
151 ATCTATAATG CGATGCTGGT GCTCGGTGAC CGAGGTGAAC CGGTTGATCT
201 GGTGACAGTT ACATCAGAGC TTGCGAACAC AGACCTGCTG GAAGAAGTAG
251 GCGGTATTTT ATATTTGACA GATATCGCAA ACTCGGTGCC GACAGCGGCT
301 AACATAGAAT ATTACGCGAA AATCGTTGAG GAAAAATCGA TTCTTCGCCG
351 ATTAATCAGA ACTGCGACAA CGATTGCTCA AGACGGGTAT ACCCGTGAGG
401 ATGAGGTCGA GGATTTACTC AGTGAAGCGG AAAAAACGAT TATGGAAGTG
451 GCACAGCGCA AAAACACGAG TGCCTTCCAA AATATTAAGG ACGTCCTTGT
501 CCAGACCTAT GATAATATCG AACAGCTTTA CAATCGAAAA GGTGATATCA
551 CGGGAATTCC AACAGGGGTTT ACGGAGCTTG ACCGGATGAC TGCGGGTTTC
601 CAGCGCAACG ACTTGATCAT TGTGGCTGCC CGTCCTTCAG TAGGGAAAAAC
651 AGCCTTTGCC CTGAACATCG CACAAAACGT GGCGACGAAG ACCGATGAGA
701 GCGTAGCGAT TTTCAGTCTT GAGATGGGTG CCGAGCAGCT CGTTATGCGT
751 ATGCTCTGTG CCGAGGGAAA TATCAATGCC CAGAATCTCC GTACAGGTAA
801 CCTGACCGAA GAGGATTGGG GCAAGCTGAC GATGGCAATG GGAAGCCTAT
851 CGAACAGCGG GATTTACATC GATGATACAC CGGGTATTCT AGTGAGTGAA
901 ATCCGTGCCA AGTGCCGCCG CTTGAAGCAG GAAAGCGGGC TGGGCATGAT
951 TTTGATCGAT TACCTGCAAT TGATTGAGGG AAGCGGTCGT TCAAAGGACA
1001 ACCGTCAGCA GGAAGTATCT GAAATTTCCC GTGAACTGAA GTCGATTGCG
1051 AGGGAGCTGC AAGTCCCTGT TATCGCGCTT TCTCAGCTTT CCAGGGGTGT
1101 TGAGCAGCGT CAGGATAAAC GTCCGATGAT GTCTGATATC CGGGAATCAG
1151 GAAGTATCGA GCAGGACGCG GATATTGTCG CGTTCCTTTA TCGTGATGAC
1201 TACTATGACA AAGAAACCGA GAATAAAAAT ATTATCGAAA TTATTATCGC
1251 CAAACAGCGT AACGGCCCGG TAGGAACCGT GTCTCTTGCG TTCGTAAAAG
1301 AATACAACAA ATTCGTCAAC CTGGAACGGC GTTTTGATGA CGCAGGCGTT
1351 CCGCCCGGCG CA
```





Figure 6B

SEQ ID NO: 7 DnaC nucleotide *S. aureus*

```
1  ATGGATAGAA TGTATGAGCA AAATCAAATG CCGCATAACA ATGAAGCTGA
51  ACAGTCTGTC TTAGGTTCAA TTATTATAGA TCCAGAATTG ATTAATACTA
101 CTCAGGAAGT TTTGCTTCCT GAGTCGTTTT ATAGGGGTGC CCATCAACAT
151 ATTTTCCGTG CAATGATGCA CTTAAATGAA GATAATAAAG AAATTGATGT
201 TGTAACATTG ATGGATCAAT TATCGACGGA AGGTACGTTG AATGAAGCGG
251 GTGGCCCCGA ATATCTTGCA GAGTTATCTA CAAATGTACC AACGACGCGA
301 AATGTTTCAGT ATTATACTGA TATCGTTTCT AAGCATGCAT TAAAACGTAG
351 ATTGATTCAA ACTGCAGATA GTATTGCCAA TGATGGATAT AATGATGAAC
401 TTGAACTAGA TGCGATTTTA AGTGATGCAG AACGTCGAAT TTTAGAGCTA
451 TCATCTTCTC GTGAAAGCGA TGGCTTTAAA GACATTTCGAG ACGTCTTAGG
501 ACAAGTGTAT GAAACAGCTG AAGAGCTTGA TCAAAATAGT GGTCAAACAC
551 CAGGTATACC TACAGGATAT CGAGATTTAG ACCAAATGAC AGCAGGGTTC
601 AACCGAAATG ATTTAATTAT CCTTGCAGCG CGTCCATCTG TAGGTAAGAC
651 TGC GTTTCGCA CTTAATATTG CACAAAAAGT TGCAACGCAT GAAGATATGT
701 ATACAGTTGG TATTTTCTCG CTAGAGATGG GTGCTGATCA GTTAGCCACA
751 CGTATGATTT GTAGTTCTGG AAATGTTGAC TCAAACCGCT TAAGAACGGG
801 TACTATGACT GAGGAAGATT GGAGTCGTTT TACTATAGCG GTAGGTAAAT
851 TATCACGTAC GAAGATTTTT ATTGATGATA CACCGGGTAT TCGAATTAAT
901 GATTTACGTT CTAAATGTCTG TCGATTAAAG CAAGAACATG GCTTAGACAT
951 GATTGTGATT GACTACTTAC AGTTGATTCA AGGTAGTGGT TCACGTGCGT
1001 CCGATAACAG ACAACAGGAA GTTTCTGAAA TCTCTCGTAC ATTAAAAGCA
1051 TTAGCCCGTG AATTAGAATG TCCAGTTATC GCATTAAGTC AGTTATCTCG
1101 TGGTGTTGAA CAACGACAAG ATAAACGTCC AATGATGAGT GATATTCGTG
1151 AATCTGGTTC GATTGAGCAA GATGCCGATA TCGTTGCATT CTTATAACCGT
1201 GATGATTACT ATAACCGTGG CGGCGATGAA GATGATGACG ATGATGGTGG
1251 TTTCGAGCCA CAAACGAATG ATGAAAACGG TGAAATTGAA ATTATCATTG
1301 CTAAGCAACG TAACGGTCCA ACAGGCACAG TTAAGTTACA TTTTATGAAA
1351 CAATATAATA AATTTACCGA TATCGATTAT GCACATGCAG ATATGATGTA
1401 A
```



## Optimal global alignment

**Sequence 2** SEQ ID NO: 7      DnaC nucleotide *S. aureus*(1513 letters)

A circular black ink stamp. The text "OIPE JCB1" is curved along the top inner edge. The date "APR 29 2004" is stamped in the center. The text "PATENT &amp; TRADEMARK OFFICE" is curved along the bottom inner edge.

# Figure 6C Cont.

seq1	699	GAGCGTAGCGATTTTTCAGTCTTGAGATGGGTGCCGAGCAGCTCGTTATGCGTATGCTCTG	758
seq2	702	TACAGTTGGTATTTTCTCGCTAGAGATGGGTGCTGATCAGTTAGCCACACGTATGATTTG	761
seq1	759	TGCCGAGGGAAATATCAATGCCCAGAATC---TCCGTACAGGTAACCTGACCGAAGAGGA	815
seq2	762	TAGTTCTGGAAATGT---TGACTCAAACCGCTTAAGAACGGGTACTATGACTGAGGAAGA	818
seq1	816	TTGGGGCAAGCTGACGATGGCAATGGGAAGCCTATCGAACAGCGGGATTTACATCGATGA	875
seq2	819	TTGGAGTCGTTTTACTATAGCGGTAGGTAAATTATCACGTACGAAGATTTTTATTGATGA	878
seq1	876	TACACCGGGTATTCGAGTGAGTGAAATCCGTGCCAAGTGCCGCCGCTTGAAGCAGGAAAG	935
seq2	879	TACACCGGGTATTCGAATTAATGATTTACGTTCTAAATGTCGTCGATTAAAGCAAGAACA	938
seq1	936	CGGGCTGGGCATGATTTTGATCGATTACCTGCAATTGATTCAGGGAAGCGGT---CGTTC	992
seq2	939	TGGCTTAGACATGATTGTGATTGACTACTTACAGTTGATTCAAGGTAGTGGTTCACGTGC	998
seq1	993	AAAGGACAACCGTCAGCAGGAAGTATCTGAAATTTCCCGTGAAGTGAAGTCGATTGCGAG	1052
seq2	999	GTCCGATAACAGACAACAGGAAGTTTCTGAAATCTCTCGTACATTAAAAGCATTAGCCCCG	1058
seq1	1053	GGAGCTGCAAGTCCCTGTTATCGCGCTTTCTCAGCTTTCCAGGGGTGTTGAGCAGCGTCA	1112
seq2	1059	TGAATTAGAATGTCCAGTTATCGCATTAAAGTCAGTTATCTCGTGGTGTTGAACAACGACA	1118
seq1	1113	GGATAAACGTCCGATGATGTCTGATATCCGGGAATCAGGAAGTATCGAGCAGGACGCGGA	1172
seq2	1119	AGATAAACGTCCAATGATGAGTGATATTCTGTAATCTGGTTCGATTGAGCAAGATGCCGA	1178
seq1	1173	TATTGTGCGGTTCTTTATCGTGATGACTACT-----ATGA	1208
seq2	1179	TATCGTTGCATTCTTATACCGTGATGATTACTATAACCGTGGCGGCGATGAAGATGATGA	1238
seq1	1209	CAAAGA-----AACCGA--GAATAAAA--ATATTATCGAAATTATTAT	1247
seq2	1239	CGATGATGGTGGTTTTGAGCCACAAACGAATGATGAAAACGGTGAAATTGAAATTATCAT	1298
seq1	1248	CGCCAAACAGCGTAACGGCCCGGTAGGAACCGTGTCTCTTGC-GTTCGTAAAAGAATACA	1306
seq2	1299	TGCTAAGCAACGTAACGGTCCAACAGGCACAGT-TAAGTTACATTTTATGAAACAATATA	1357
seq1	1307	ACAAATTCGTCAACCTGGAACGGCGTTTTTGATGACGCAGGCGTTCCGCCCCGGCGCA	1362
seq2	1358	ATAAATT---TACCGATATCG--ATTATGCACATGCAGATATGATG-----TAA	1401

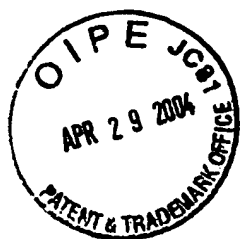


Figure 6D

SEQ ID NO: 8 DnaC *B. subtilis*

1	MTDLLNDRLP	PQNI EAEQAV	LGAIFLQPSA	LTLASEVLIP	DDFYRMSHQK
51	IYNAMLVLGD	RGEPVDLVT	TSELANTDLL	EEVGGISYLT	DIANSVPTAA
101	NIEYYAKIVE	EKSILRRLIR	TATTIAQDGY	TREDEVEDLL	SEAEKTIMEV
151	AQRKNTSAFQ	NIKDVLVQTY	DNIEQLYNRK	GDITGIPTGF	TELD RMTAGF
201	QRNDLIIVAA	RPSVGKTAF	LNIAQNVATK	TDESVAIFSL	EMGAEQLVMR
251	MLCAEGNINA	QNLRTGNLTE	EDWGKLTAM	GSLSNSGIYI	DDTPGIRVSE
301	IRAKCRRLKQ	ESGLGMILID	YLQLIQGSGR	SKDNRQQEVS	EISRELKSIA
351	RELQVPVIAL	SQLSRGVEQR	QDKRPMMSDI	RESGSIEQDA	DIVAFLYRDD
401	YYDKETENKN	IIEIIIAKQR	NGPVGTVSLA	FVKEYNKFVN	LERRFDDAGV
451	PPGA				

SEQ ID NO: 9 DnaC *S. aureus*

1	MDRMYEQNQM	PHNNEAEQSV	LGSIIIDPEL	INTTQEVLLP	ESFYRGAHQH
51	IFRAMMHLNE	DNKEIDVVT	MDQLSTEGTL	NEAGGPQYLA	ELSTNVPTTR
101	NVQYYTDIVS	KHALKRRLIQ	TADSIANDGY	NDELELDAIL	SDAERRILEL
151	SSSRES DGFK	DIRDVLGQVY	ETAEELDQNS	GQTPGIPTGY	RDLDQMTAGF
201	NRNDLIILAA	RPSVGKTAF	LNIAQKVATH	EDMYTVGIFS	LEMGADQLAT
251	RMICSSGNVD	SNRLRTGTMT	EEDWSRFTIA	VGKLSRTKIF	IDDTPGIRIN
301	DLRSKCRRLK	QEHGLDMIVI	DYLQLIQGSG	SRASDNRQQE	VSEISRTLKA
351	LARELECPVI	ALSQLSRGVE	QRQDKRPMMS	DIRESGSIEQ	DADIVAFLYR
401	DDYYNRGGDE	DDDDDGGFEP	QTNDENGEIE	IIIAKQRNGP	TGTVKLHFMK
451	QYNKFTDIDY	AHADMM			



## Figure 6E

Sequence 1 SEQ ID NO: 8 DnaC *B. subtilis* (490 letters)

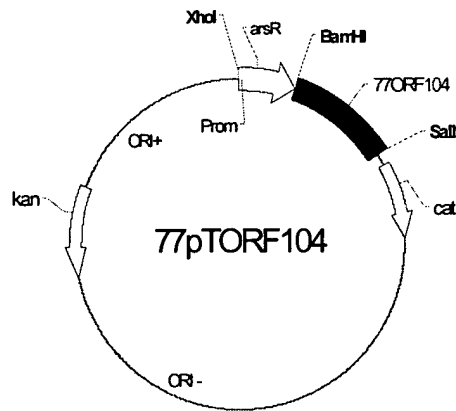
Sequence 2 SEQ ID NO: 9 DnaC *S. aureus* (503 letters)

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seq2	1	MDRMYEQNQMPHNNEAEQSVLGSIIIDPELINTTQEVLLPESFYRGAHQHIFRAMMHLNE	60
seq1	61	RGEPVDLVTVTSELANTDLLEEVGGISYLTDIANSVPTAANIEYYAKIVEEKSILRRLIR	120
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seq2	61	DNKEIDVVTLMQDLSTEGTLNEAGGPQYLAELSTNVPTTRNVQYYTDIVSKHALKRRLIQ	120
seq1	121	TATTIAQDGYTREDEVEDLLSEAEKTIMEVAQRKNTSAFQNIKDVLVQTYDNIEQLYNRK	180
		:               : :   :         : :   : : : : :   :   :     :	
seq2	121	TADSIANDGYNDELELDAILSDAERRILELSSSRESDGFKDIRDVLGQVYETAELDQNS	180
seq1	181	GDITGIPTGFTELDRMTAGFQRNDLIIVAARPSVGKTAFALNIAQNVATKTD-ESVAIFS	239
		: :   :   :	
seq2	181	GQTPGIPTGYRDLQMTAGFNRNDLIILAARPSVGKTAFALNIAQKVATHEDMYTVGIFS	240
seq1	240	LEMGAELVMRMLCAEGNINAQNLRGTGNLTEDWGKLTAMGSLNSNGIYIDDTPGIRVS	299
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seq2	241	LEMGADQLATRMICSSGNVDSNRLRTGTMTTEEDWSRFTIAVGKLSRTKIFIDDTPGIRIN	300
seq1	300	EIRAKCRRLKQESGLGMILIDYLQLIQGSG-RSKDNRQQEVSEISRELKSIARELQVPVI	358
		: :   :	
seq2	301	DLRSKCRRLKQEHGLDMIVIDYLQLIQGSGSRASDNRQQEVSEISRTLKALARELECPVI	360
seq1	359	ALSQLSRGVEQRQDKRPMSDIRESGSIEQDADIVAFLYRDDYYDK-----	404
		: :	
seq2	361	ALSQLSRGVEQRQDKRPMSDIRESGSIEQDADIVAFLYRDDYYNRGGDEDDDDGGGFEP	420
seq1	405	ETENKN-IIIEIIIAKQRNGPVGTVSLAFVKEYNKFVNLERRFDDAGVPPGA	454
		:   : :   : :	
seq2	421	QTNDENGEIEIIIAKQRNGPTGTVKLHFMKQYNKFTDIDYAHADM-----M	466

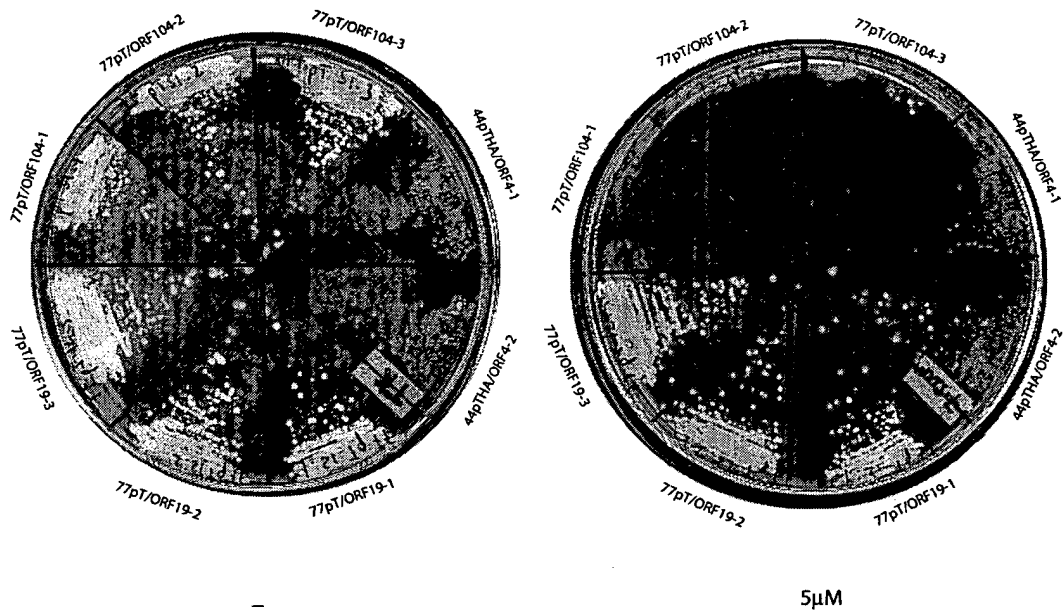


FIGURE 7

7A-



7B-



7C-

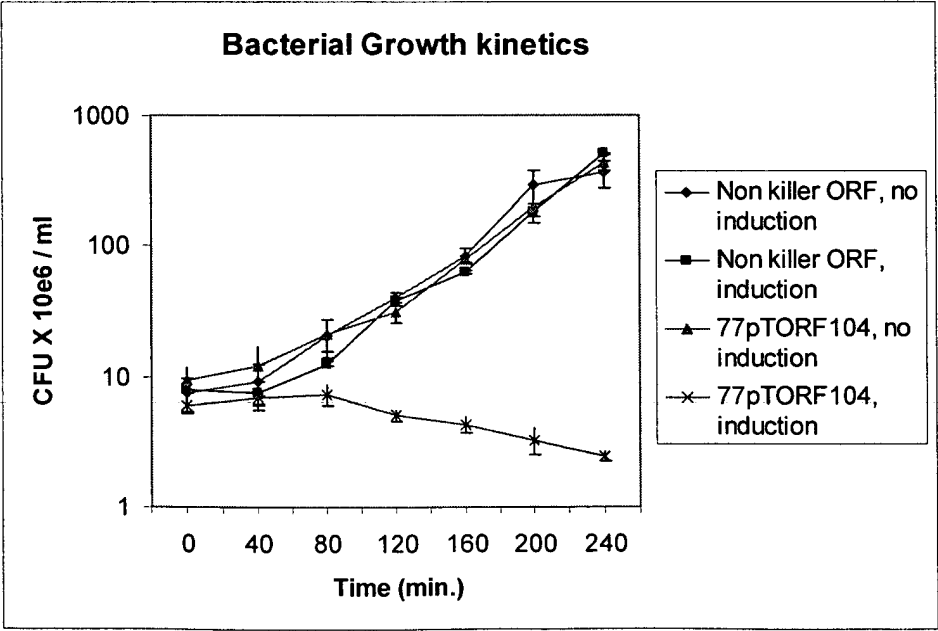
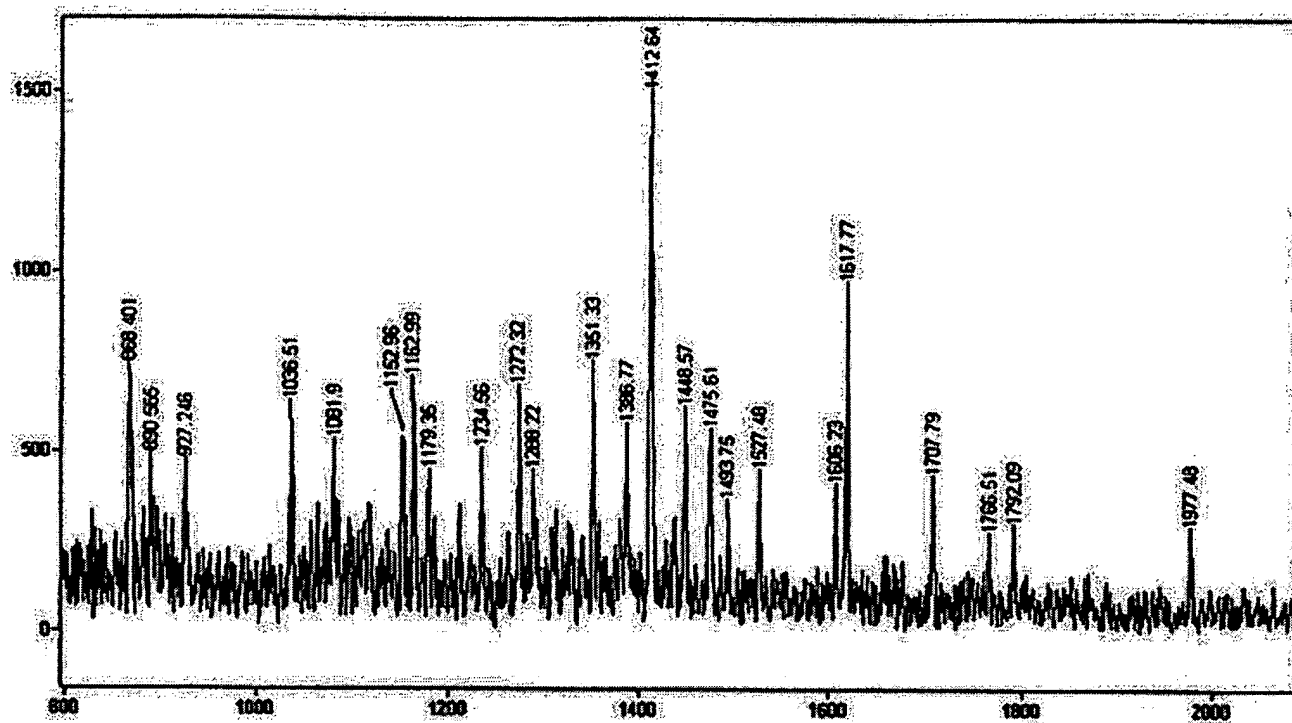
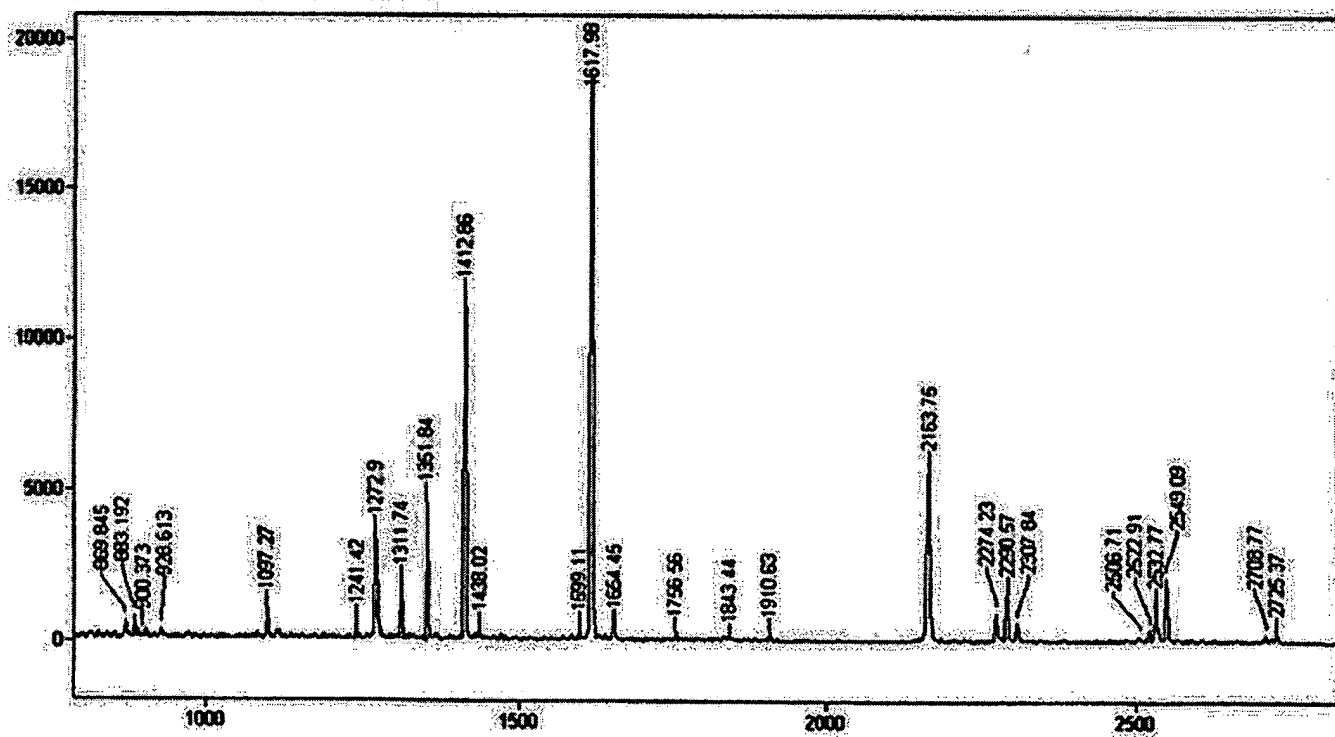


Figure 11

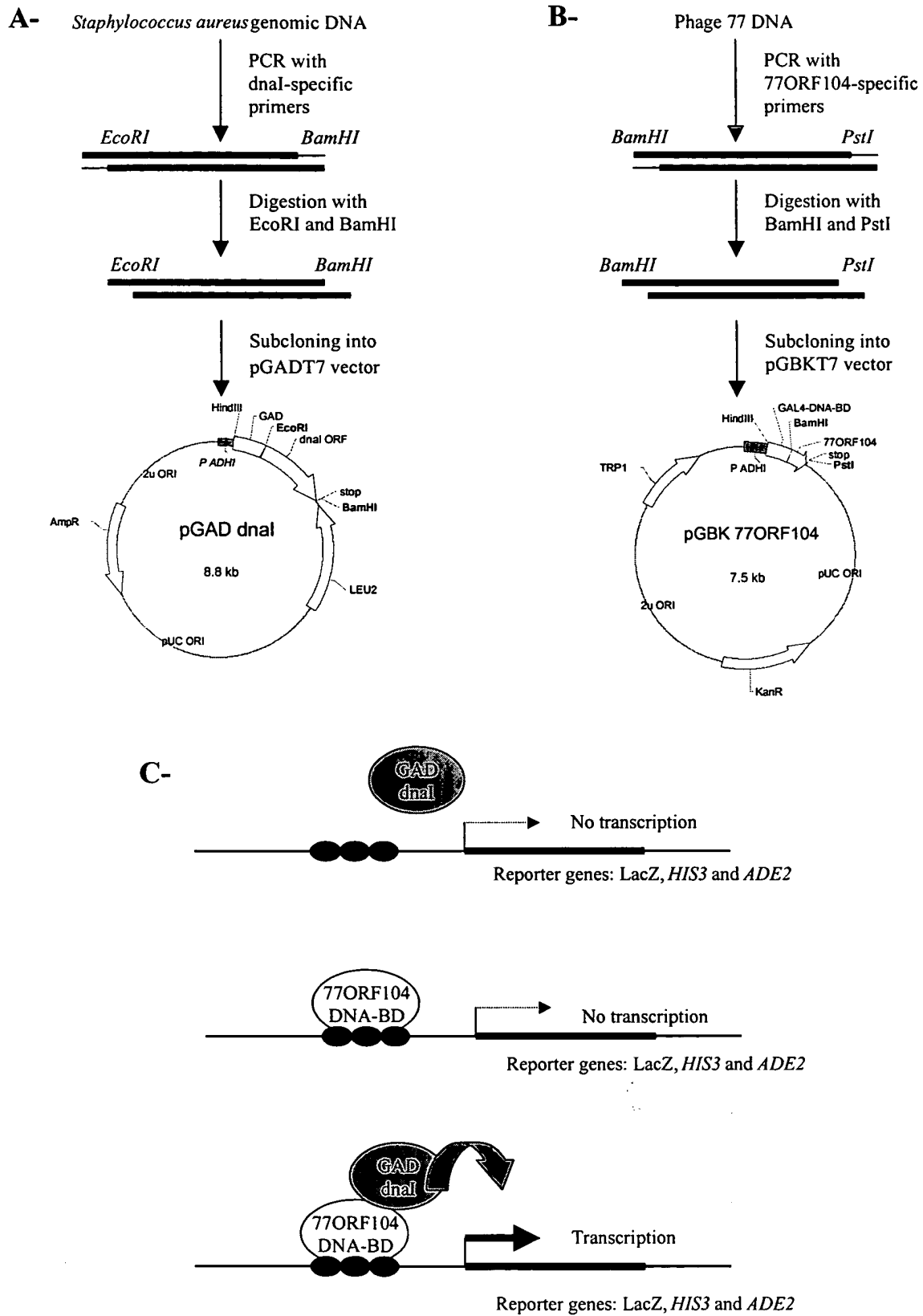
i) Tryptic peptide mass spectrum of interacting protein (1% Triton X-100 elute)



ii) Tryptic peptide mass spectrum of interacting protein (1% SDS eluate)



**Figure 12**





**FIGURE 14A**

